



SF₆ Management

New York Power Authority

John Kahabka
V.P Environmental, Health & Safety



NYPA

- America's Largest state power organization
 - 16 Generating Facilities with 1400 miles of transmission
- Serve 115 Government customers
 - NYC, MTA, PANY/NJ, NYCHA, Westchester County
- 47 Municipal Electric System & 4 Rural Cooperatives
- Low Cost Hydropower sold to businesses and industries which support over 380,000 jobs.

SF₆ Tracking at NYPA

1999-
2006

- Handwritten notes on work orders
- Multiple site maintained spreadsheets (Excel, Access)
- Cumbersome to extract information
- Lack of normalization between sites

2007-
2011

- Centralized Sharepoint system
- Multi-user environment
- Accessed through NYPA Intranet
- Little to no automatic data validation
- No filtering for site specific equipment
- HUGE manual extraction effort and calculations

2012-
Present

- Integrated system with Maximo.
- Multi-user environment
- Simple to use (same environment planners currently work in)
- Built in, robust data validation. Significantly reduces typing errors and erroneous data entry.

The New System Requirements

- Started design in 2011
- Input from sites
 - They needed a simple to use program that only showed the equipment and cylinders at their site.
 - They understood the data accuracy requirements, we needed to build in the validation
- Needed to leverage existing and widely used Asset Management system (MAXIMO).
 - This system contained nameplate capacities, manufacturer information, date of install, date of retirement, shipping information, etc.
- Reporting
 - Needed to create Ad-hoc and pre-determined reports
 - Flag problem equipment.
 - Comply with EPA and Climate Registry requirements for Reporting (Mostly identical, CR has no nameplate threshold)

Development

- Had some false starts
- Site input was/is key to success.
- Had to key into the strengths of each department involved.
 - IT staff knows databases
 - Environmental knows reporting requirements
 - Site staff knows data entry and work process.

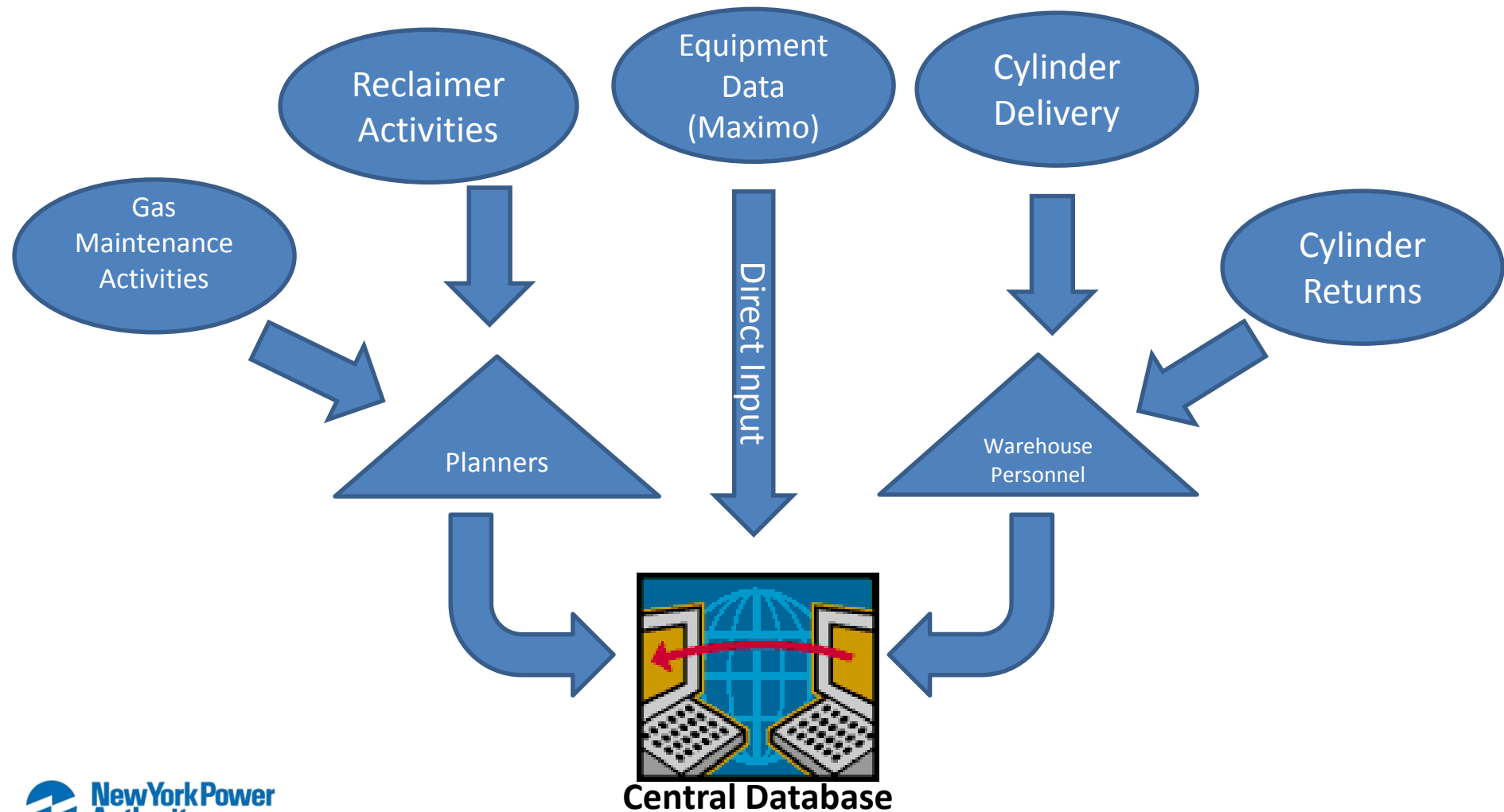
Changes

- Internal Procedures had to be reviewed and changed to reflect the process changes
 - Warehouse has larger role going forward (Receiving/Entering cylinders)
 - Planners are central contact for each site
 - Headquarters ‘runs’ the asset management system for equipment entries.

Currently

- The system is up and running
 - Few very minor hiccups
 - Few working procedure modifications needed to take place
- Site staff is extremely happy with final product.
 - Significantly reduced their work efforts
 - More intuitive to use, reduced 'tech' support.
- Data cleaning has been reduced to bare minimum.
 - Integrated validation has proven successful
- One-click reporting is still in development (Within next few months)
 - However, data extraction and final calculations is far easier and significantly less cumbersome (no more multiple spreadsheets with formulas)

Process



tree

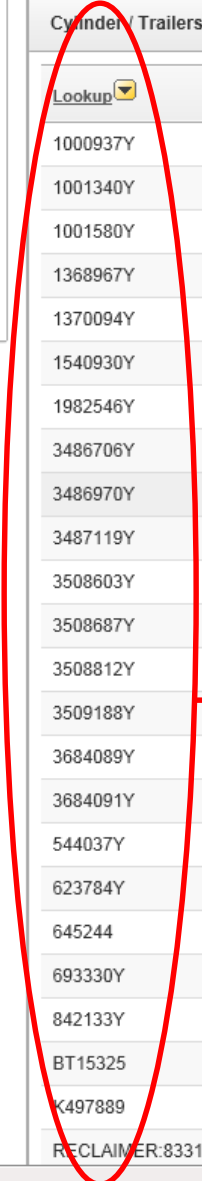
- NYPA
 - 500MW
 - BG
 - EOYWEIGHT-12/31/2010-WCLOSE
 - BOYWEIGHT-1/3/2011-WCLOSE
 - EOYWEIGHT-12/20/2011-WCLOSE
 - BOYWEIGHT-1/2/2012-WCLOSE
 - EOYWEIGHT-12/31/2012-WCLOSE
 - BOYWEIGHT-1/10/2013-WCLOSE
 - EOYWEIGHT-12/19/2013-WCLOSE
 - FLYNN
 - GT
 - NIAGARA
 - STLAW
 - TRANS
 - WPO

Information

ID	Site	Type	Date	Status	Workorder	Contract	Closed	Print?	Action
942	BG	EOYWEIGHT	12/19/2013	WCLOSE	-	-	-		Work Already Begun Add Cylinders

Cylinder Trailers Read Only

Lookup	Tare Weight	Tare Verified?	Weight	Date	Netweight	Hydrostatic Test Date
1000937Y	118.00	Y	186.10	12/2/2013	68.10	-
1001340Y	116.40	Y	144.50	12/2/2013	28.10	-
1001580Y	115.60	Y	192.90	12/2/2013	77.30	-
1368967Y	114.60	Y	141.70	12/2/2013	27.10	-
1370094Y	117.00	Y	171.00	12/2/2013	54.00	-
1540930Y	116.40	Y	206.50	12/2/2013	90.10	-
1982546Y	116.80	Y	144.90	12/2/2013	28.10	-
3486706Y	116.20	Y	123.20	12/2/2013	7.00	-
3486970Y	114.50	Y	116.20	12/2/2013	1.70	-
3487119Y	114.80	Y	139.90	12/2/2013	25.10	-
3508603Y	116.10	Y	140.20	12/2/2013	24.10	-
3508687Y	116.00	Y	116.00	12/2/2013	0.00	-
3508812Y	113.70	Y	139.50	12/2/2013	25.80	-
3509188Y	116.20	Y	154.30	12/2/2013	38.10	-
3684089Y	117.20	Y	156.50	12/2/2013	39.30	-
3684091Y	119.40	Y	120.90	12/2/2013	1.50	-
544037Y	118.80	N	196.70	12/2/2013	77.90	-
623784Y	114.00	Y	176.80	12/2/2013	62.80	-
645244	115.00	N	199.50	12/2/2013	84.50	-
693330Y	117.60	Y	216.70	12/2/2013	99.10	-
842133Y	117.00	Y	222.50	12/2/2013	105.50	-
BT15325	118.00	Y	234.30	12/2/2013	116.30	-
K497889	111.00	Y	178.60	12/2/2013	67.60	-
RECLAIMER:83318	-	N	8.00	12/2/2013	8.00	-



Cylinders Present at specific Site at EOY

Best Management Practices

- Build in Data Validation (clean data in = more accurate reporting)
- Involve personnel from every step (gather streamlining ideas from everyone involved)
- Eliminate Typing to the greatest degree possible.
- Reduce data 'hand-offs'

Next Steps

- NYPA Maximo Upgrade to 7.5
 - Integrate system into Maximo completely
- Continuously look at streamlining SF₆ Management from delivery to disposal. (Less entry the better)
- Develop automatic processes for alerting staff to historically problematic equipment.
 - Flagging after a certain number of unplanned maintenance activities.



New York Power Authority

Generating more than electricity